

Q.—And to accomplish this you have not only the weight of the shoulder, but the involuntary contraction of several large muscles to overcome, have you not? A.—Yes.

Q.—Can you conceive of any other appliance that will as effectually accomplish this as the yoke splint and figure of eight bandage combined? A.—Well, sir, the figure of eight bandage is a good dressing. It has the approval of the profession, and such writers as Sir Astly Cooper and others in the Old Country.

Q.—But the yoke splint you consider a piece of barbarism, do you not? A.—I do not consider it a suitable dressing at all.

Q.—You are not aware that it has been used by the profession in New England for the last fifty years, and that too, with general favor? A.—Perhaps such as this—referring to a patent yoke splint put into the case by deSt—may have been used, but not some agricultural implement, like a sap-yoke.

Q.—Will you take these two splints, the patent splint and the sap-yoke, and examine them carefully; and if the patent is in any respect the best, say in what respect, and why the best. A.—I can't say there is much difference, except that the sap-yoke is a great deal the heaviest.

Q.—How much the heaviest? A.—I cannot say, but considerable.

Q.—How much, I want your best judgement? A.—Witness, after carefully handling them sometimes, said: Perhaps two or three ounces.

Q.—Not so very much heavier, then, after all? A.—Not so very much.

Q.—Now I want you to tell the jury about these muscles which have their attachment to the shoulder, and about their contraction. It is true, is it not, that whenever a bone is fractured or thrown out of place, the muscles in the neighborhood of the injury, take on what is called involuntary contraction? A.—It is; and sometimes that contraction is very powerful.

Q.—In this case, the muscles about the shoulder contract, and tend to draw the shoulder down, do they not? A.—Yes, sir.

Q.—And to effect a cure, you say it is important to keep the shoulder up—now, let me ask you as a matter of philosophy, if it does not seem to you that the yoke splint is admirably adapted to accomplish this result. A.—Perhaps so; I can't say.

Q.—Give the names of these muscles which contract to draw the shoulder down. Give them all. A.—There is the deltoid, the pectoralis major and the pectoralis minor.

Q.—Give the origin and insertion of each. A.—The witness gave the origin and insertion of the deltoid and pectoralis minor, correctly—or at least to the satisfaction of counsel; but of the pectoralis major, witness said in substance, as follows: It has its origin from the clavicle, and its insertion along the middle portion of the ribs.

Q.—Are you sure, Doctor, that this muscle has its insertion along the ribs, at that point. A.—Yes, sir.

Q.—Has it not its insertion upon the anterior lip of the bicipital groove? A.—I think it has. I was mistaken; it has.

Q.—And did you give the whole extent of the origin of this muscle? A.—Yes, sir.

Q.—Does not this muscle also extend along the whole length of the sternum or breast bone? A.—Yes, sir. Oh yes, it does.

Q.—And is that its whole extent? A.—Yes, sir, to be sure.

Q.—Does it not also extend along the cartilages of the true ribs? A.—Indeed, I think it does.

Q.—This muscle has an extensive origin, has it not; more so than you were thinking? A.—It has an extensive origin.

Q.—Have you given the names of all the muscles that have to do in draw-